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The need for high-quality maize seeds for utilization in the infant food factory has been identified. At present, over Rs. 20 billion of foreign exchange is required for purchase of maize. The quality product is to contain a moisture content < 14%, aflatoxins < 5 ng/kg and impurities < 3%, as defined by Sri Lanka standards.

This study reports on losses in maize during Yala 96 and Maha 96/97 and some critical factors contributing to these losses.

A survey carried out at Nachchiyaduwa and Thuruwila Agricultural Divisions in the Anuradhapura district, revealed that: (a) Factors contributing to quality loss during the Yala and Maha seasons, included the following (expressed as % ± SD): bird damage 5.5 ± 0.9 and 10.5 ± 2.5; unfilled cobs 2.0 ± 0.9 and 13.4 ± 3.0; stem borer attack 6.7 ± 0.9 and 0.7 ± 0.8; and harvesting of immature grain 1.2 ± 0.6 and 3.3 ± 1.7 respectively. (b) Laboratory studies showed that seeds obtained from 30 farmers during the Yala season had no aflatoxin contamination, while in the Maha season, only one sample out of 70 contained a toxin level of 11.3 ng/kg, as determined by HPLC techniques. (c) Equilibrium moisture content curve for maize, determined using saturated salt solutions to maintain relative humidity (RH), revealed that grain equilibrated to a moisture level of 10.5%, 11.25% and 13.2% at 60%, 70% and 80% RH, at 30°C, respectively.

This study concludes that introduction of a quality control measure at various pre-harvest and post-harvest stages to remove damaged cobs / grains could contribute to a grain loss of 15.4 to 27.9% for the 2 seasons. Drying of grain to a moisture level < 11.5% was a crucial factor for maintaining high quality aflatoxin-free grains for marketing.

Financial assistance by Council for Agricultural Research Policy (Research grant CARP/12/315/238) is acknowledged.